

REMARKS/ARGUMENTS

Claims 1-3, 26, 28 and 30 are pending.

Claim 1 was objected to for minor informalities.

Claim 30 was rejected under 35 U.S.C. § 112, first paragraph for allegedly not being supported with regard to “diode.”

Claims 1-3, 26, 28, and 30 were rejected under 35 U.S.C. § 112, second paragraph for allegedly being unclear with regard to “diode.”

Claims 1-3, 25-26, 28 and 30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Yano (5,138,415), Gross (US 5,316,964), Patterson (US 4,972,247), Vyne (US 4,606,781), and Moss (US 5,024,922).

Claims 1-3, 25-26, 28 and 30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Gross (US 5,316,964), Patterson (US 4,972,247), Vyne (US 4,606,781), and Moss (US 5,024,922).

Claims 1 and 30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Akiyama (US 5,994,189) in view of Gross, Patterson, Vyne, and Moss.

Claims 1 and 30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mori et al. (US 5,101,244) in view of Gross, Patterson, Vyne, and Moss.

Section 112 Rejections

Claim 30 was rejected for reciting that the claimed power device is a diode. It is noted that diodes can certainly be classified as power devices. While not all diodes are necessarily classified as power devices, the electronics industry recognizes that diodes can be fabricated with voltage and current ratings that make them power devices. Accordingly, the language in claim 30, that the power device is a diode, is clear in what is meant. In addition, the specification as originally filed explicitly discloses in ¶[0042] “a power device 56 ... is a diode.”

As for the claimed “passivation layer,” claim 1 has been amended to more clearly set forth that the passivation layer includes a polyimide layer and an oxide layer. See for example Fig. 3 and respective layers 12 and 11, and ¶¶[0033 and 0036]. Claim 26 has been amended to

recite that the oxide layer contacts the upper surface of the substrate, the first surface of the isolation diffusion region, and the peripheral junction region.

No new matter has been added. The Section 112 rejections are believed to be overcome.

Section 103 Rejections

An aspect of the present invention is the replacement of glass as the passivation layer for large diameter wafers. ¶[0029] A disclosed replacement passivation layer is a combined oxide and polyimid structure. ¶[0030] Accordingly, the pending claims recite in part:

A power device, comprising:

...

a passivation layer provided over the upper surface of the substrate, the first surface of the isolation diffusion region, and the peripheral junction region, the passivation layer comprising a polyimid layer and an oxide layer;

...

The newly cited Vyne reference was relied on for allegedly teaching a “passivation layer comprising a polyimid layer and an oxide layer.” In particular, Fig. 4, layer 44 was cited. The figure shows a multitude of layers:

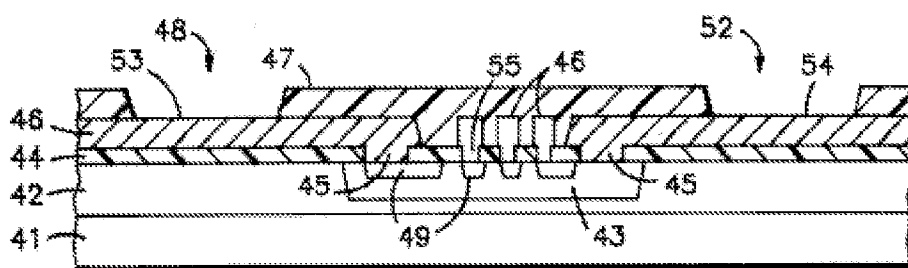


FIG. 4

A metal layer (46) is deposited atop insulating layer (44), which in turn is formed atop epitaxial layer (42). In the embodiment, epitaxial layer (42) is an N-type material deposited atop P-type substrate (41).

Insulating layer 44 does not constitute the recited “passivation layer comprising a polyimid layer and an oxide layer.”

Moreover, neither metal layer 46 nor N-type epitaxial layer 42 constitute a teaching of an oxide layer. Accordingly, the combination of metal layer 46 and insulating layer 44 clearly do not constitute a teaching or even a suggestion of a “passivation layer comprising a polyimide layer and an oxide layer.” Likewise, the combination of insulating layer 44 and N-type epitaxial layer 42 clearly do not constitute a teaching or even a suggestion of a “passivation layer comprising a polyimide layer and an oxide layer.”

For at least this reason, the various Section 103 rejections of the claims are believed to be overcome. Reconsideration is respectfully requested.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

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